Claims

1. A solid structure fabrication method, the method comprising filling each of a plurality of reservoirs with a selected ink, each said ink containing a solid material loading of nanosized particles, ejecting a selected ink from a print head connected to a corresponding reservoir towards a medium surface, the print head and medium surface being movable relative to each other in a plane defined by first and second directions and in a third direction orthogonal to said plane.

2. A method as claimed in Claim 1, wherein the solid structure is generated as a plurality of layers, each layer being laid down by ejecting at least one selected ink towards the medium surface.

3. A method as claimed in Claim 2, wherein a contiguous feature of said solid structure is generated by selectively ejecting a selected ink towards the medium surface so as to form a set of at least partially superimposed portions of said layers.

4. A method as claimed in any preceding Claim, comprising filling a reservoir with a fugitive material and ejecting the fugitive material from a print head connected to the reservoir towards the medium surface.

5. A method as claimed in any preceding Claim, wherein the structure is separated from said medium surface.

6. A method as claimed in any preceding Claim, comprising selecting the solid material loadings to form a structure having an anode, a cathode and an electrolyte.

7. A solid oxide fuel cell fabrication method, the method comprising filling each of a plurality of reservoirs with a selected ink corresponding to an anode, electrolyte and cathode material, each ink containing a solid material loading of nanosized particles, wherein the solid oxide fuel cell is generated as a

plurality of layers, each layer being laid down by ejecting at least one selected ink towards a medium surface such that an electrolyte layer separates a cathode and anode layer to form a cell.

8. A method as claimed in Claim 7, wherein the layers are removable from the medium surface.

9. A method as claimed in Claim 7 or Claim 8, wherein at least one reservoir is filled with a fugitive material and selectively ejected towards the medium surface.

10. A method as claimed in Claim 8 or Claim 9, wherein a post-deposition sintering operation is carried out.

11. A method as claimed in any one of Claims 7 to 10, wherein at least one reservoir is filled with a selected ink corresponding to an interconnect material, the ink containing a solid material loading of nanosized particles, wherein a contiguous interconnect feature is generated by selectively ejecting said selected ink towards the medium surface so as to form a set of at least partially superimposed portions of said layers.

12. A method as claimed in Claim 11, where a stack of solid oxide fuel cells is formed by depositing a plurality of sets of anode and cathode layers each separated by an electrolyte layer such that said cells are interconnected by respective interconnect features.

13. An ink-jet deposition apparatus for use in accordance with the method of any one of Claims 1 to 6 or Claims 7 to 12 to deposit a structure on a medium surface, the apparatus comprising a plurality of print heads connectable to a selected ink reservoir, the print heads and medium surface being movable relative to each other in a plane defined by first and second directions and in a third direction orthogonal to said plane.

14. A structure deposited in accordance with the method of any one of Claims 1 to 6 or Claims 7 to 12, wherein the structure is removable from the medium surface.

15. A structure as claimed in Claim 14, wherein the medium surface is a polymeric release film.